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ABSTRACT

Programs and curricula in vocational education in Taiwan have traditionally been linked to the nation's priority of economic development. The current vocational education system originated in the 1950s. In the 1970s, public free education was extended from 6 years of elementary school education to include an additional 3 years of junior high school. Vocational education at the junior high level was phased out, with all vocational education being placed at the senior high level. By 1980, enrollment in vocational education programs accounted for 68 percent of secondary school enrollments. New curriculum standards, implemented in 1986 for industrial and marine education and in 1988 for agricultural, business, nursing, and home economics education, stressed a broader academic foundation and technical skill competency. In 1989, more than a half million students were enrolled in vocational schools and 20 percent of employees were vocational school graduates. Recent social changes, such as a shortage of workers in traditional and high technology industry, the overburdened school curriculum, and changing career and education expectations of students, have led to new national education policies. The Ministry of Education has extended public free education from 9 to 12 years. The 12-year free public education system will begin for students entering senior high and vocational schools in 1993. According to projections, more than 60 percent of high school students will choose to attend vocational schools. (The document includes an appendix with nine statistical tables and figures.) (CML)

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VOCATIONAL EDUCATION AT THE CROSSROADS
THE CASE OF TAIWAN

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VOCATIONAL EDUCATION AT THE CROSSROADS- THE CASE OF TAIWAN

One of the major factors contributing to the successful economic development in Taiwan, Republic of China, during the 1980's is the quality and quantity of the well-educated and highly-skilled work force provided by the nation's vocational education schools and vocational training institutions during the past four decades. Traditionally, the master plan for vocational edcuation in Taiwan has responded to the nation's priority for economic development. However, as a result of social changes and economic development, vocational education is facing many challenges.

The current vocational education system in Taiwan originated in the 1950's. This early stage of vocational education focused on teacher education and curriculum planning and development. To upgrade vocational education in the secondary schools, teacher education programs for industrial and agricultural education were established in the universities. In curriculum development, the unit trade vocational education curriculum was adopted. The results from a census and study of industrial occupations and trades were used to develop programs, objectives and instructional contents for vocational education.

This formed a basis for the expansion and transformation of vocational education which began in the 1960's. During this period, a special fund for the development of vocational

education was created to add new programs and facilities to the major provincial vocational schools. The Ministry of Education published the curriculum guidelines for vocational education. Many private and independent vocational schools were also established during this period. Most of these private vocational schools offer vocational industrial and business programs. During the late 60's, the most popular program added to the vocational education in both public and private vocational schools was electronics. The vocational education system was able to meet the demand and provide the large number of electronics technicians needed by the infant, but fast growing electronics industry.

The 1970's became the turning point for Taiwan's vocational education. The public free education was extended from six years of elementary school education, to include an additional three years of junior high school. Vocational education at the junior high level was phased out. The new policy for public education placed all vocational education at the senior high level, which required reevaluation and adjustment of all vocational education programs including their objectives, curriculum, teaching methods, and teacher preparation. The Vocational Education Curriculum Standards were revised in 1974 in six major vocational education areas: agricultural, industrial, business, home economics, health and nursing, marine and fishery. The new curriculum guidelines for vocational industrial education stressed the technical core courses and shop practices, and

eliminated unnecessary duplication in course offerings.

To supply the manpower at the technician level for the nation's major construction and industrial projects, vocational industrial education was placed at the highest priority in funding for vocational education. New vocational industrial schools funded by the government were built in major cities and counties. Senior academic high schools with local conditions and demand for vocational education were converted into comprehensive high schools with industrial and business education programs. Vocational agricultural and vocational business schools were adding industrial subjects to become vocational industrial-agricultural schools and vocational industrial-business schools. The rapid expansion of vocational education created a severe shortage of teachers. To recruit and train qualified teachers for vocational education, a new teacher college was founded in Taiwan to prepare teachers for vocational industrial, vocational business education and vocational counseling. The new teacher college admited only the graduates from vocational schools.

The programs and enrollment in the vocational education has steadily increased during this decade. By 1980, the enrollment in vocational education programs accounted for sixty-eight percent of the total secondary schools' enrollment, and the students enrolled in vocational industrial schools exceeded fifty percent of total vocational school enrollment.

Vocational education in Taiwan entered it's fouth decade with constant growth and expansion in industrial, business and

other trade areas. The major tasks of vocational education in the 1980's are program integration, curriculum upgrading, and in-service teacher training. New curriculum and instructional methods are also being introduced. Cluster courses and competency-based instruction have become the main theme of the vocational education curriculum planning and development. To achieve these instructional goals, vocational education teachers and administrators define course contents, develop objectives, prepare course materials and educational media for the successful implementation of competency-based instruction. Vocational education teachers are encouraged to attend in-service training in their field, which include seminars, workshops, graduate courses, and study abroad. Universities offer graduate professional and technical courses. A majority of vocational industrial education teachers attend graduate classes in the Graduate Institute of Industrial Education at National Taiwan Normal University during the summer.

The most significant effort in the improvement and promotion of vocational education is the vocational education improvement plans administered by the Department of Education, Taiwan Provicial Government. In the first and second phases of the "Vocational Industrial Education Improvement Project", from 1979 to 1985, a total of more than US $200 million was appropriated. This was funding for new programs, shop facilities and instructional media.

Facing the changes in job markets and skill requirements

with more technological emphasis, the third phase of the project which started in 1986 and will be completed in 1991 has placed the priority on curriculum revision, program integration, new equipment and facility renovation. Other improvements and upgrading projects include agricultural, business, marine, fishery, home economics, and nursing education. Efforts and measures to improve vocational education are in the following.

Curriculum Standards

In responding to the changing emphases and to provide more flexible occupational choices for vocational education students, the Ministry of Education published a revised curriculum standards and guidelines for each vocational education area. The new curriculum standards, which were implemented in 1986 for industrial and marine education and in 1988 for agricultural, business, nursing, home economics education, stress a broader academic foundation and technical skill competency. The common elements of the curriculum standards include general education requirements, professional ethics, basic and developmental skills, computer information systems education and current technologies.

Opportunity and Articulation

A flexible career and academic opportunity has been the major concern of the vocational education students. The current articulation policies and agreements allow students to transfer

among various types of schools including vocational, technical education programs and academic high schools. As their counterparts in the academic high schools, vocational education graduates can attend any college and university by passing the college entrance examination. Additional opportunities for vocational edcuation students are the two-year technical colleges and vocational teacher education programs in universities. The articulation agreements between vocational school and skill training center are being proposed. The agreements would allow students to transfer the credits earned in a skill training center to a vocational school.

Cooperative Programs

For decades, cooperative programs have been the integral part of vocational education in many major vocational schools. It combines and utilizes school and community resources to provide the optimum learning environment for students. Types and trade areas of the cooperative programs offered by a vocational school vary depending upon the regional conditions and the agreements between the school and the participating business and industry. The rotation system of cooperative program is the most common arrangement adopted by vocational industrial schools. Students alternate their schedule between academic courses in school and receive basic skill training in the factory.

Vocational Extension Programs

The most unique and innovative program offered by vocational school is the vocational extension programs. They provide alternative career avenues for those individuals who have completed nine years of public education and are not currently employed or enrolled in any type of school. The courses in the extension programs focus on the basic skill training and practical shop techniques. The students, upon completing the required credit hours, receive certification by taking a competency examination. Most vocational schools also offer evening classes, adult education classes and other short-term training courses depending on the schools' resources, facilities and the needs of the local community.

New Developments

The programs and curricula in vocational education in Taiwan have traditionally been linked to the nation's priority for economic development. In 1989, more than half million students enrolled in vocational schools, and twenty percent of the employed people in the nation are vocational school graduates. This record speaks well of the ability of vocational education to provide educational opportunities for the nation's citizens and it's contribution to the nation's economic development.

Recent social and economic changes have brought about many problems which have become the most pressing challenges for general education and vocational educational as well. Among

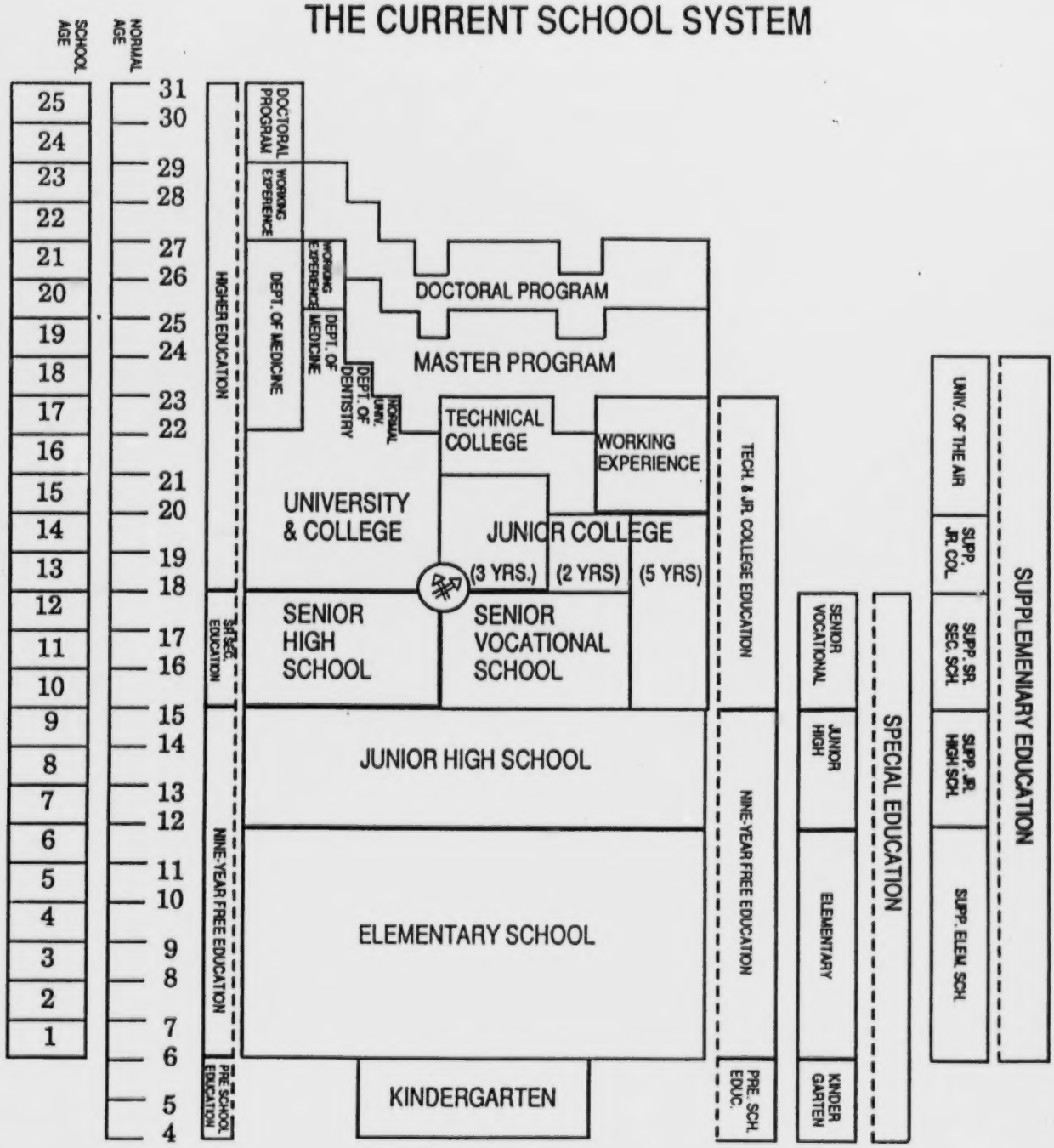
these problems are the shortage of workers in traditional and high technology industry, the overburdened school curriculum, and the changing career and education expectations of the students.

The policy makers and educators have studied these problems as to the goals of the current education system. The Ministry of Education has set forth a new national policy extending the public free education from nine to twelve years. This is the most significant measure in upgrading and improving the overall quality of the nation's education since 1970.

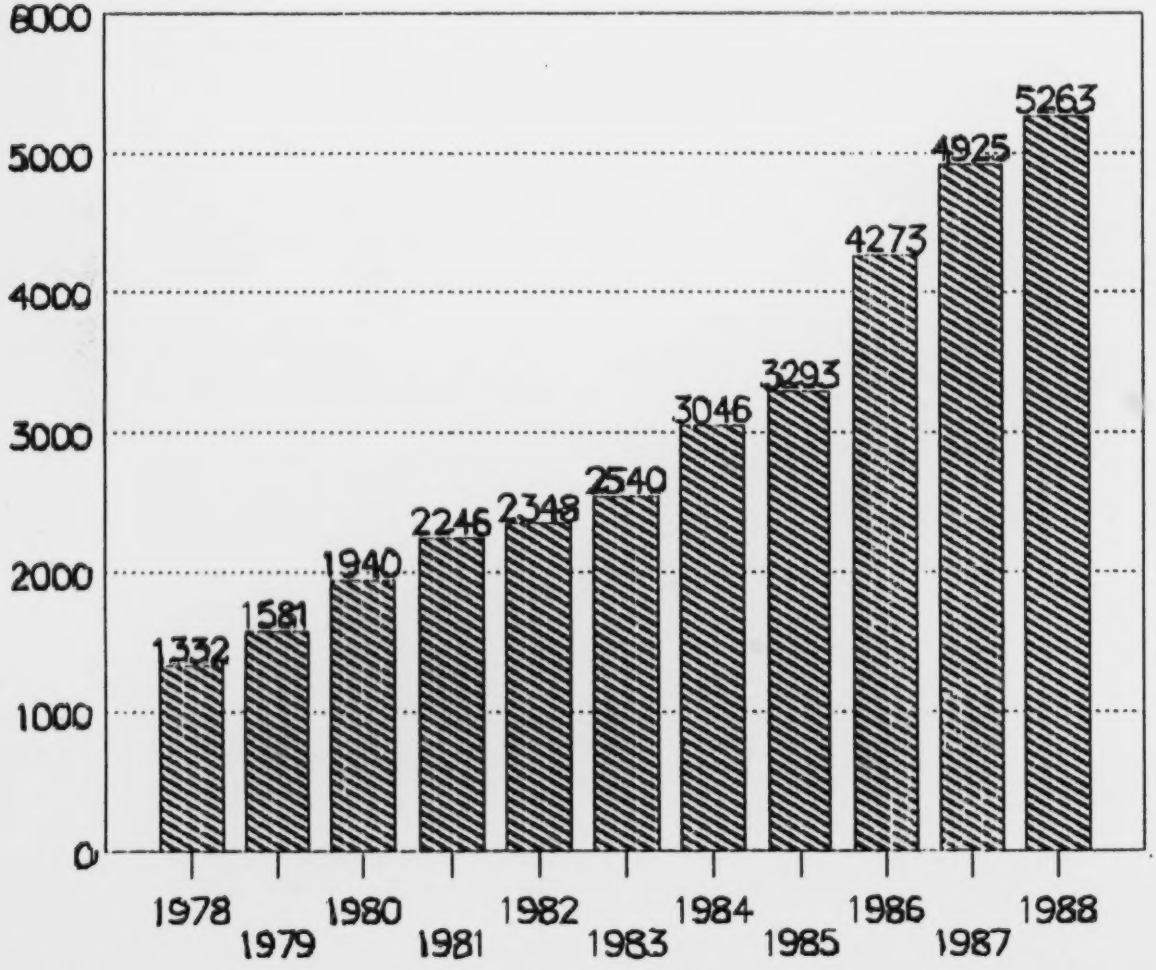
The twelve-year free public education will begin for students entering senior high and vocational schools in 1993. According to the projection, more than sixty percent of high school students will chose to attend vocational schools. As a vital part of public education system, the future of Taiwan's vocational education lies on it's ability to provide educational needs and opportunities for the citizens during the next decade and on into the twenty-first century.

APPENDIX

THE CURRENT SCHOOL SYSTEM

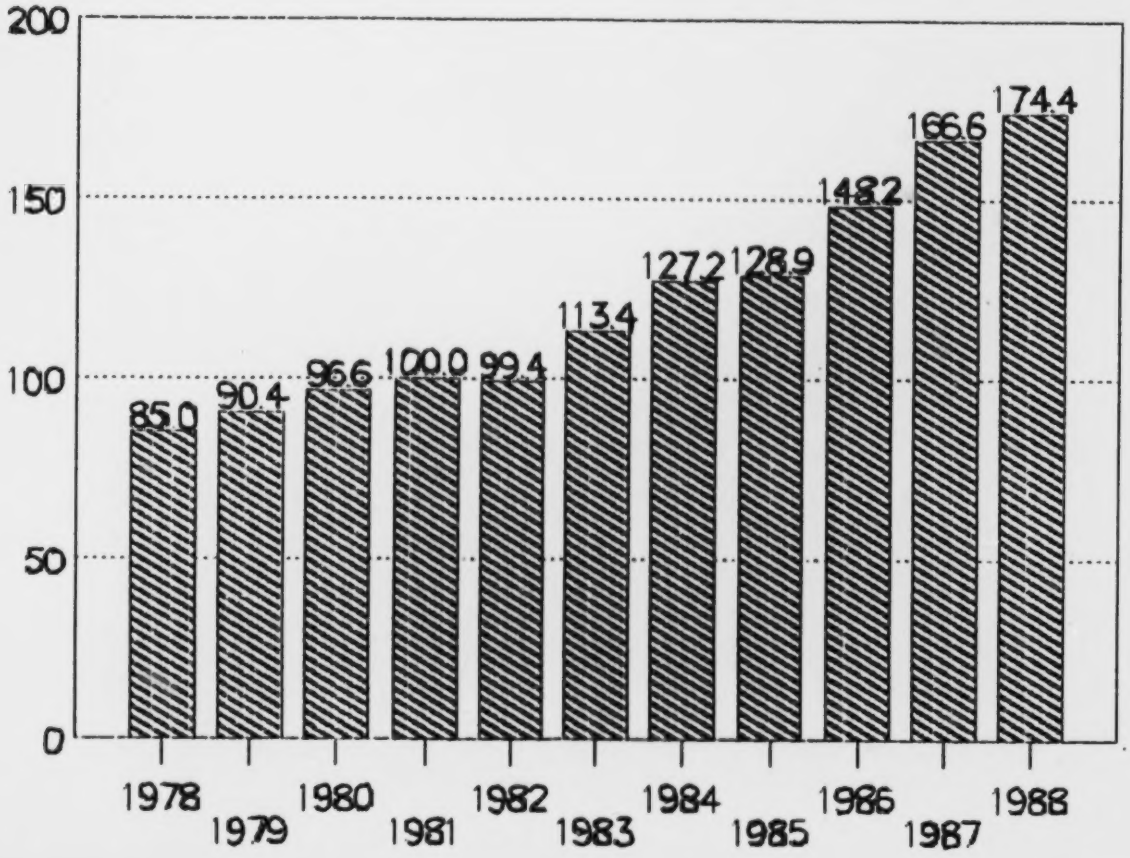


PER CAPITA INCOME, US$

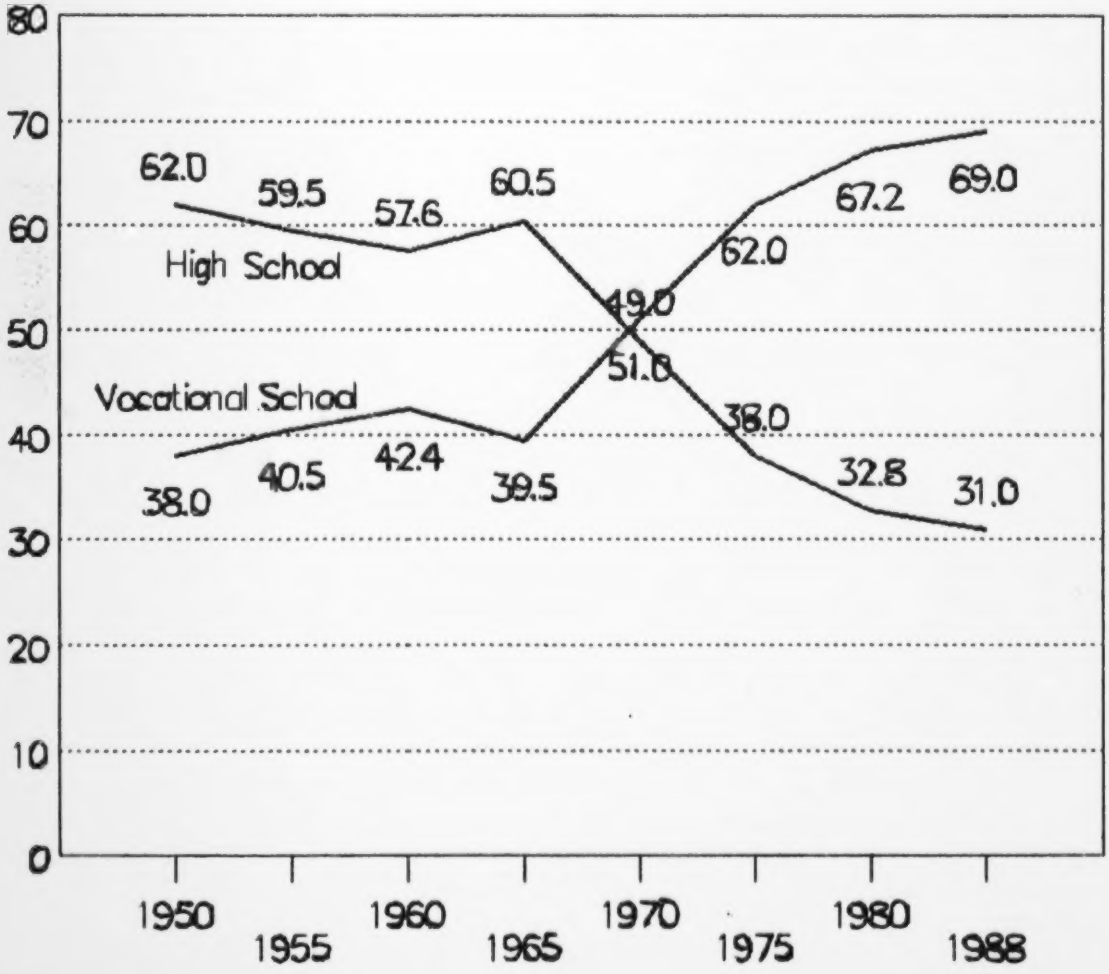


INDUSTRIAL PRODUCTION INDEX

(1981 = 100)



ENROLLMENT PERCENTAGE



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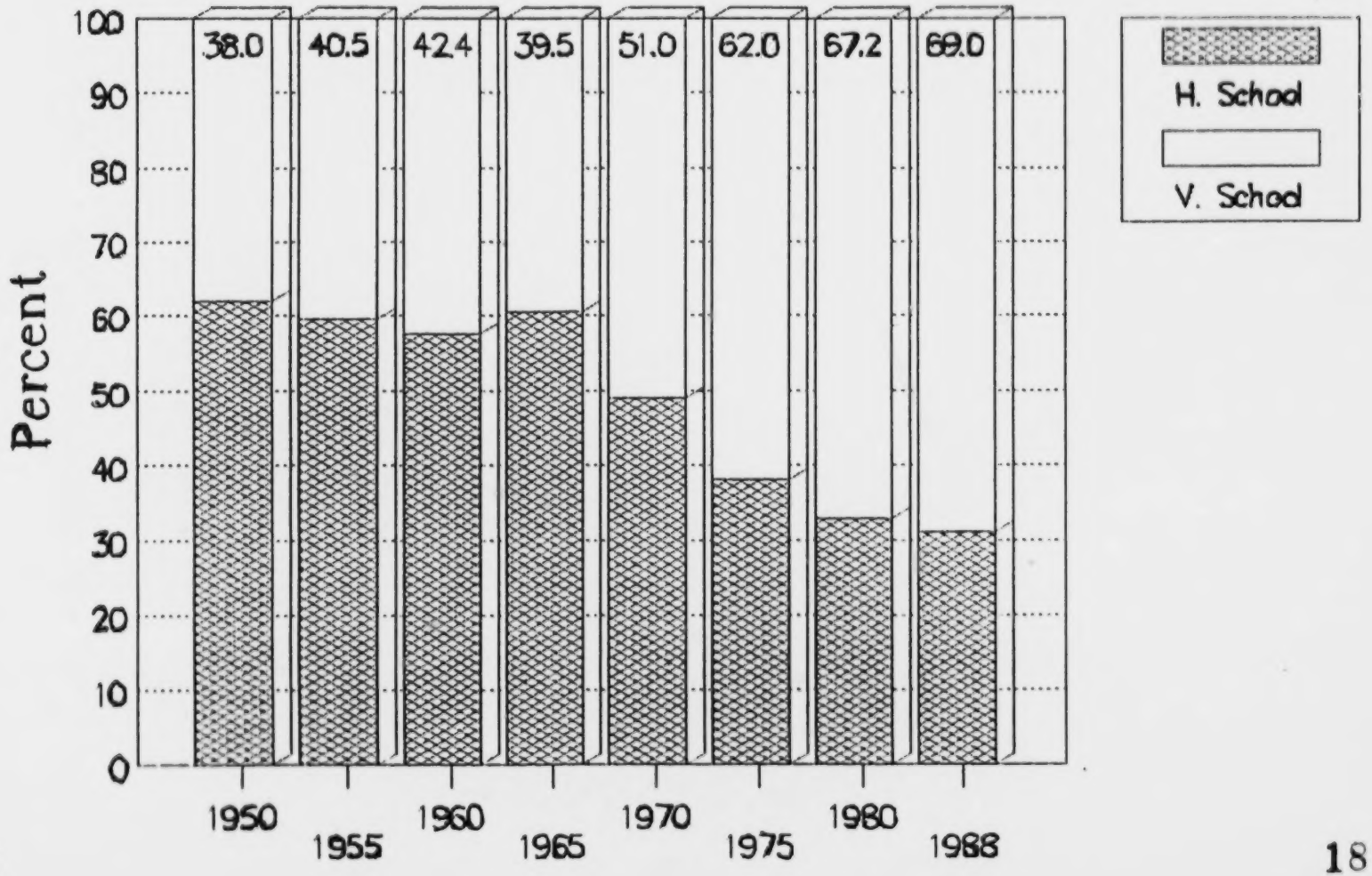
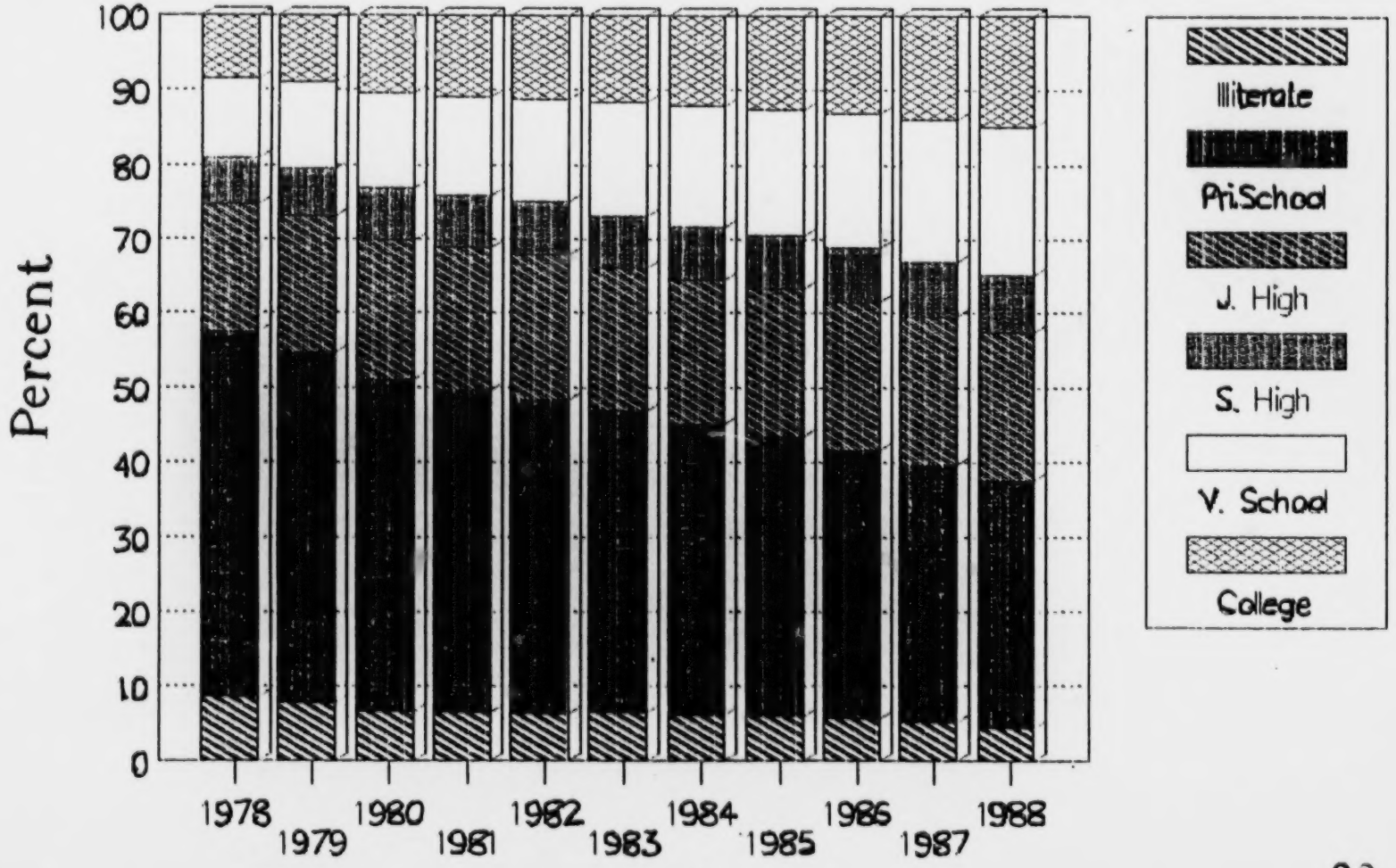


PERCENTAGE OF EMPLOYED PEOPLE
BY EDUCATION

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Illiterate	8.6	7.7	6.7	6.5	6.3	6.5	6.2	6.0	5.6	5.1	4.3
Self-educated	3.2	3.2	3.1	2.8	2.6	2.5	2.3	2.3	2.3	2.1	1.9
Primary School	45.7	43.8	41.3	40.3	39.4	37.8	36.5	35.1	33.8	32.5	31.4
Junior High	17.3	18.4	18.8	19.2	19.6	19.3	19.	19.9	19.9	19.8	19.8
Senior High	6.1	6.3	6.9	7.1	7.2	7.0	7.2	7.2	7.2	7.4	7.8
Vocational School	10.6	11.6	12.7	13.2	13.6	15.4	16.3	17.0	18.2	19.2	20.0
Junior College	4.3	4.5	5.4	5.6	5.9	6.0	6.4	6.9	7.1	7.7	8.2
University & Graduate School	4.2	4.5	5.1	5.3	5.4	5.5	5.6	5.6	5.9	6.2	6.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

EMPLOYED PEOPLE BY EDUCATION



PERCENTAGE OF VOCATIONAL EDUCATION ENROLLMENT
BY PROGRAM TYPE

	1966	1967	1971	1976	1981	1986	1988
Agricultural	19.5	19.6	10.4	5.8	6.0	7.0	5.8
Industrial	18.6	23.1	44.1	48.9	52.0	52.6	50.6
Business	48.9	42.5	35.7	37.3	33.4	27.8	28.0
Marine	4.2	5.2	3.4	2.5	2.1	2.5	1.8
Nursing	2.6	3.8	3.0	3.5	3.3	3.9	3.1
Home Economics	6.2	5.8	3.4	2.0	3.1	6.2	10.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

VOCATIONAL EDUCATION ENROLLMENT BY PROGRAM TYPE